

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of)	
)	
Preserving the Open Internet)	
)	GN Docket No. 14-28
On Remand from the United States)	
Court of Appeals for the)	
District of Columbia Circuit)	
)	

COMMENTS OF COGENT COMMUNICATIONS GROUP, INC.

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INTRODUCTION

Cogent Communications Group, Inc. (“Cogent”) submits these comments in response to the Commission’s February 19, 2014 Public Notice (DA 14-211)—“New Docket Established to Address Open Internet Remand” (GN Docket No. 14-28).¹

Cogent agrees that “[p]reserving the Internet as an open platform for innovation and expression while providing certainty and predictability in the marketplace is an important responsibility of [the Commission].”² Cogent also supports the Commission’s efforts, in the wake of the remand in *Verizon v. F.C.C.*,³ to promulgate rules consistent with that decision to preserve the principles of the open Internet. To that end, the Commission should issue a Notice of Proposed Rulemaking (“NPRM”) and seek public comment on specific rules as discussed below.

Before turning to the issues that should be addressed in such an NPRM, we note that any new rules that come out of such a proceeding as currently contemplated are destined to fall short of the full regulatory authority that the Commission has and should exercise under Title II of the Communications Act. Chairman Wheeler stated: “As the Court of Appeals noted, as long as Title II—with the ability to reclassify Internet access service as a telecommunications service—remains a part of the Communications Act, the Commission has the ability to utilize it if

¹ Cogent’s comments in this proceeding address issues and rules applicable to all broadband Internet service providers. These comments are not intended to address issues associated with the serious, and perhaps irreparable, public interest concerns raised by the proposed Comcast-Time Warner Cable transaction. Cogent will address such issues at the appropriate time in the docket that will be established for that transfer proceeding.

² Statement by FCC Chairman Tom Wheeler on the FCC’s Open Internet Rules (Feb. 19, 2014) at 1 (“Wheeler Feb. 19, 2014 Statement”).

³ 740 F.3d 623 (D.C. Cir. 2014).

warranted. Accordingly, the Commission's docket on Title II authority remains open.”⁴ With all due respect to Chairman Wheeler, the exercise of that express authority is warranted now.

The Internet has become the essential mode of communications in the modern age. Its role in areas such as commerce, personal and business communications, entertainment, education, governmental services, healthcare, and others has grown exponentially and should continue to grow in the years ahead. The greatest threat to that growth is not a scarcity of interest, innovation or capital, but rather the potential for Internet service providers (“ISPs”) that maintain bottleneck control over access to end users to engage in practices that interfere with the perpetuation and expansion of a truly open Internet. Regardless of whether such practices are subtle or overt, the combination of a handful of ISPs exercising control over the gateways to end users, coupled with well-recognized incentives and abilities to engage in conduct that impairs or degrades competitive traffic, poses a threat to continued investment in, and the maintenance of, the open Internet.

Given the omnipresence of these ISPs, the critical service they provide, and in many cases the absence of viable alternatives for consumers, the better course would be to recognize them for what they are today—providers of essential “telecommunications services,” not “information services.” Doing so would permit the Commission to utilize its authority to regulate the providers of broadband Internet service as “common carriers.” It would also provide the legal predicate for imposing the sort of regulatory requirements (e.g., “no unreasonable discrimination” obligations) to which common carriers who provide telecommunications services have historically been subject.

⁴ Wheeler Feb. 19, 2014 Statement at 2.

While Title II reclassification is appropriate, timely, and consistent with the crucial position that broadband Internet access service has come to occupy in the United States, Cogent recognizes that, for the time being, the Commission may not pursue this optimal regulatory path. Therefore, the balance of these comments addresses steps the Commission can take short of Title II reclassification in furtherance of preserving the open Internet.⁵

Section I provides a brief overview of Cogent's business and explains where it fits in the Internet "distribution chain." Section II explains how the Commission can and should enhance the *Open Internet Order's*⁶ transparency rule that was affirmed by the D.C. Circuit. Section III identifies an additional rule that, consistent with its authority under Section 706 of the Telecommunications Act of 1996, the Commission should promulgate to fulfill the important policy goals that underlie the *Open Internet Order* and that were recognized in the *Verizon* decision.

I. Cogent's Business

Cogent is a multinational Tier 1 Internet service provider, headquartered in Washington, D.C., and consistently ranked as one of the top five networks in the world. It offers facilities-based, low-cost, high-speed Internet access and Internet Protocol ("IP") communications services to businesses across thirty-eight countries.

From its founding in 1999 to today, Cogent's core business philosophy has been that Internet bandwidth should be marketed, sold and purchased as a commodity. Cogent started its

⁵ To that end, Cogent encourages the Commission to closely examine "legal restrictions on the ability of cities and towns to offer broadband services to consumers in their communities." Wheeler Feb. 19, 2014 Statement at 2. The easing of such restrictions has the potential to catalyze competition for the provision of broadband Internet service, a development which would benefit end users and edge providers alike.

⁶ *In the Matter of Preserving the Open Internet Broadband Indus. Practices*, GN Docket No. 09-191, WC Docket No. 07-52, Report and Order, 25 FCC Rcd 17905 (2010) (the "*Open Internet Order*").

business by offering Internet access at 100 Mbps for \$1,000 per month, when the prevailing rate was more than that for a 1.5 Mbps T-1 connection to the Internet for commercial customers. Consistent with its guiding principle, Cogent provides Internet bandwidth in large quantities, at high speeds, at industry-leading and ever-lower prices, and without regard to the sources of the bits of data that move across its network. To do this, Cogent has leveraged cutting-edge technology to build its own IP network and provide affordable, fast Internet service to its customers. The result of Cogent's efforts is a broad and diverse customer base, such that no single customer accounted for more than 1.4% of Cogent's 2013 revenues.

This business philosophy has benefited competition, innovation and consumers. As the cost of connectivity provided by Cogent has continued to fall by approximately 22% per year over the past five years, innovative edge providers⁷ have been able to take advantage of this cost structure to develop new and disruptive services and applications that are in high demand by consumers. Moreover, Cogent's business model enables these edge providers to deliver their services to consumers at lower prices.

While Cogent is a multifaceted provider of IP communications services, most relevant for present purposes are the on-net services that Cogent sells to its net-centric customers who typically purchase multiple 10 Gigabit per second connections at multiple locations. These customers include various bandwidth-intensive users like universities, other Internet service providers, telephone and cable television companies, web hosting companies, content delivery networks, and commercial content providers. Through its interconnection with over five thousand such customer networks that access the entire Internet through Cogent, and its

⁷ "Edge providers are those who, like Amazon or Google, provide content, services, and applications over the Internet . . ." *Verizon*, 740 F.3d at 629.

exchange of traffic with peer networks, Cogent ensures that its customers and the customers of other ISPs can exchange traffic.

The importance of interconnection to Cogent, its customers and, more fundamentally, the efficient operation of the Internet, is described in Cogent's most recent Form 10-K, filed with the U.S. Securities and Exchange Commission on February 28, 2014:

The Internet is an aggregation of interconnected networks. We have settlement-free interconnections between our network and most major Internet Service Providers, or ISPs. We interconnect our network to other networks predominantly through private peering arrangements. Larger ISPs exchange traffic and interconnect their networks by means of direct private connections referred to as private peering.

Peering agreements between ISPs are necessary in order for them to exchange traffic. Without peering agreements, each ISP would have to buy Internet access from every other ISP in order for its customer's traffic, such as email, to reach and be received from customers of other ISPs. We are considered a Tier 1 ISP and, as a result, we have settlement-free peering arrangements with other providers. We purchase no transit services or paid peering to reach any portion of the Internet. This allows us to exchange traffic with those ISPs without payment by either party. In such arrangements, each party exchanging traffic bears its own cost of delivering traffic to the point at which it is handed off to the other party.⁸

As evident from the foregoing, the ability of a given ISP's customers to access any Internet content of their choosing is dependent upon the interconnection of that ISP's network to the other networks that, collectively, comprise the Internet.

A simplified illustration will show how peering arrangements work. Suppose that content provider "XYZ" is a Cogent customer, and that a customer of "ABC," a "last-mile" broadband ISP, wishes to access XYZ's content. The ABC customer will send a request through the ABC network, which will pass that request to Cogent at the interconnection or peering point

⁸ Cogent, Annual Report (Form 10-K) at 5 (Feb. 28, 2014).

between ABC and Cogent. Cogent, in turn, will deliver the request to XYZ. The response—the XYZ Internet content that ABC’s customer requested—will be transmitted from XYZ through Cogent’s network, at which point it will be routed to an interconnection or peering point with ABC and handed off to ABC. Finally, ABC will deliver that content to its customer via its own network.

This model of exchanging traffic is known as settlement-free peering because it entails an exchange of traffic—but, notably, not of compensation—between Cogent and ABC. Under this model, which has been customary since the inception of the Internet, Cogent and ABC are each compensated by their own customers to whom they have sold Internet access. Moreover, this model has been a critical catalyst to the innovation which has allowed the Internet to develop in a relatively short period of time into the most open, dynamic and important communications system in the world. Preservation of that system must be the central focus of this proceeding.

II. The Commission Can and Should Enhance the Transparency Rule

In *Verizon*, the U.S. Court of Appeals for the D.C. Circuit generally recognized the Commission’s authority to encourage broadband deployment under Section 706, and specifically upheld the transparency rule adopted in the *Open Internet Order* as consistent with that authority.⁹ Consistent with *Verizon*, in establishing this docket the Commission emphasized that the transparency rule “remains in full force and effect.”¹⁰

The utility and importance of the transparency rule and the public disclosures it facilitates

⁹ See *Verizon*, 740 F.3d at 635, 659 (holding that Section 706 “furnishes the Commission with the requisite affirmative authority to adopt the [transparency rule]” and that the transparency rule “operate[s] independently” and remains in force).

¹⁰ Public Notice (DA 14-211), “New Docket Established to Address Open Internet Remand,” FCC, GN Docket No. 14-28 (Feb. 19, 2014) at 1 (“FCC Feb. 19, 2014 Public Notice”).

are virtually undisputed.¹¹ As most observers agree, the current rule has to some degree enabled more informed choices by consumers and the provision of technical information which edge providers may use to “develop their business plans and assess risks.”¹² At the same time, the Commission has called for “flexibility in implementation of the transparency rule”¹³ and, consistent with this principle, thus far has identified mostly general or “high-level” categories of information it “expect[s]” broadband ISPs to disclose.¹⁴ While such generalities and expectations are directionally appropriate, the time has come (especially in the wake of *Verizon*) for the Commission to consider ways in which it can “enforce and enhance the transparency rule.”¹⁵

As explained below, Cogent submits that any effort to enhance the transparency rule must focus on requiring broadband ISPs to provide more detailed, timely and accessible disclosures that are useful to all persons involved in the operation or use of the Internet—not just the customers of last-mile broadband ISPs. Moreover, disclosures of the type described below will

¹¹ See, e.g., U.S. Dep’t of Justice Jan. 4, 2010 Ex Parte Submission, GN Docket No. 09-51, at 25 (“One attractive policy alternative for the Commission is to seek to improve the *quality* of competition by ensuring that consumers get better information about their choices, so that they can compare offers and select the broadband service that best suits their needs.”) (emphasis in original); Verizon & Verizon Wireless Jan. 14, 2010 Comments, GN Docket No. 09-191, WC Docket No. 07-52, at 118 (advocating a “focus on increased transparency that will provide consumers meaningful information and allow them to make informed choices in response to broadband providers’ practices”); Comcast Corp. Jan. 14, 2010 Comments, GN Docket No. 09-191, WC Docket No. 07-52, at 44 (“Comcast has long recognized that clear communication with our customers is an important part of a successful relationship.”); Level 3 Commc’n Inc. Jan. 14, 2010 Comments, GN Docket No. 09-191, WC Docket No. 07-52, at 13 (“Level 3 supports this transparency requirement so that end users can make the most knowledgeable decisions concerning their use of Broadband Internet Access service.”); Netflix, Inc. Jan. 14, 2010 Comments, GN Docket No. 09-191, WC Docket No. 07-52, at 8 (“Network operators should be required to disclose relevant information regarding their broadband access service offerings, in particular the actual speeds and/or ranges of speeds that consumers can expect as well as network management practices that may slow the delivery of certain traffic, including any time-of-day restrictions.”).

¹² FCC Feb. 19, 2014 Public Notice at 1.

¹³ *Open Internet Order*, 25 FCC Red at 17938, para. 56.

¹⁴ Feb. 19, 2014 Public Notice at 1; *Open Internet Order*, 25 FCC Red at 17938, para. 56.

¹⁵ Wheeler Feb. 19, 2014 Statement at 1.

facilitate the Commission's enforcement efforts by providing a detailed body of data from which it can determine if a broadband ISP is engaging in practices that impede the reasonable and timely deployment of broadband service to all Americans.

A. The Current Transparency Rule

Before discussing measures that should be taken to augment the transparency rule, it is important to understand the existing regulatory regime, and in particular how it relates to acceptable and effective disclosure methods concerning network management practices and performance characteristics. As articulated in the *Open Internet Order*, the transparency rule provides that:

A person engaged in the provision of broadband Internet access service shall publicly disclose accurate information regarding the network management practices, performance, and commercial terms of its broadband Internet access services sufficient for consumers to make informed choices regarding use of such services and for content, application, service, and device providers to develop, market, and maintain Internet offerings.¹⁶

In addressing compliance with the rule, the Commission has stated that “effective disclosures will likely include” information concerning “some or all” of the following topics: (1) *network practices*, including congestion management, application-specific behavior, device attachment rules, and security measures; (2) *performance characteristics*, including a general description of system performance and the effects of specialized services, if any, on available capacity; and (3) *commercial terms*, including pricing, privacy policies, and redress options.¹⁷

On June 30, 2011, five months before the transparency rule went into effect, the Commission's Enforcement Bureau and Office of General Counsel issued advisory guidance for “broadband providers seeking additional clarification about disclosure practices that will satisfy

¹⁶ *Open Internet Order*, 25 FCC Rcd at 17937, para. 54.

¹⁷ *Id.* at 17939, para. 56.

the rule when it becomes effective.”¹⁸ The guidance covered five areas of interest: (1) point-of-sale disclosures; (2) service description; (3) extent of required disclosures; (4) content, applications, service, and device providers; and (5) security measures.¹⁹

The guidance concerning the description of network management practices was largely limited to a suggestion that broadband providers could comply with their disclosure obligations by “directing prospective customers at the point of sale, orally and/or prominently in writing, to a web address at which the required disclosures are clearly posted and appropriately updated.”²⁰ With respect to the disclosure of network performance information (e.g., expected and actual access speed and latency), the Commission stated that broadband providers who elected to participate in the nationwide broadband performance measurement project known as “Measuring Broadband America” could simply “disclose their results from the project as a sufficient representation of the actual performance their customers can expect to experience.”²¹

The Commission has not issued any subsequent advisory guidance concerning compliance with the transparency rule.²² Accordingly, there remains much that the Commission

¹⁸ Public Notice (DA 11-1148), “FCC Enforcement Bureau and Office of General Counsel Issue Advisory Guidance for Compliance with Open Internet Transparency Rule,” FCC, GN Docket No. 09-191, WC Docket No. 07-52 (June 30, 2011) at 1 (“FCC June 30, 2011 Advisory Guidance”).

¹⁹ *See id.* at 3-7.

²⁰ *Id.* at 4.

²¹ *Id.* at 4; *see also id.* at 4-5 (“For example, for a particular tier of service, a broadband provider could disclose data from the project showing the mean upload and download speeds in megabits per second during the ‘busy hour’ between 7:00 p.m. and 11:00 p.m. on weeknights.”).

²² In order to assist it in “monitoring the state of Internet openness and the effects of our rules,” the Commission established the Open Internet Advisory Committee (“OIAC”) comprised of individuals representing a wide range of organizations and viewpoints, including consumer advocates, Internet engineering experts, and broadband service providers. *Open Internet Order*, 25 FCC Rcd at 17989, para. 162. In July 2012, OIAC formed a Transparency Working Group to advise the Commission on, among other things, “the transparency of offerings from Internet Service Providers.” Open Internet Advisory Committee, 2013 Annual Report at 82, *available at* <http://transition.fcc.gov/cgb/oiac/oiac-2013-annual-report.pdf> (last visited Mar. 18, 2014) (“OIAC 2013 Annual Report”). The working group’s deliberations culminated in a recommendation that the Commission adopt “a voluntary open Internet labeling program

can and should do to enhance the type, specificity and frequency of information broadband ISPs should be required to disclose. At a minimum, any effort to enhance the transparency rule should consider what the latest Commission data on broadband performance reveals (or, more importantly, does not reveal), and recent network congestion issues that impact broadband Internet end users' abilities to receive, and edge providers' abilities to transmit, certain types of data. Such concerns are not merely theoretical, as congestion issues have been prominently documented in media coverage.²³

B. Shortcomings of the Current Transparency Rule And Recommendations for Improvement

The current transparency rule suffers from significant shortcomings, both with respect to the type and frequency of performance data the Commission analyzes and disseminates under the Measuring Broadband America ("MBA") program and with respect to disclosures surrounding network management practices. Each is discussed in turn below.

1. Data Disclosed Through Participation in the MBA Program

On February 15, 2013, the Commission's Office of Engineering and Technology and Consumer and Governmental Affairs Bureau jointly released the latest results from the MBA program, which the Commission has characterized as "an ongoing, rigorous, nationwide study of

as a means of helping consumers more easily compare and select Internet service offerings." *Id.* Setting aside the relative merits and flaws of this recommendation, it is one on which the Commission has not acted.

²³ See, e.g., Drew Fitzgerald & Shalini Ramachandran, *Feud Over Netflix Traffic Leads to Video Slowdown*, WALL STREET J. (Feb. 18, 2014), <http://online.wsj.com/news/articles/SB10001424052702304899704579391223249896550> (reporting on congestion issues caused in part by peering disputes with ISPs); Jon Brodtkin, *Why YouTube buffers: The secret deals that make—and break—online video*, ARS TECHNICA (July 28, 2013), <http://arstechnica.com/information-technology/2013/07/why-youtube-buffers-the-secret-deals-that-make-and-break-online-video/> (explaining why congestion at interconnection points with ISPs slows the performance of streaming video services to the point such services are, at times, "almost unusable").

residential broadband performance in the United States.”²⁴ The project is a critical component of any effort to enhance the transparency rule because, as noted above, participating in the program is currently the way in which the largest U.S. broadband providers have elected to satisfy at least some of their disclosure obligations.

For all participating broadband providers,²⁵ the 2013 MBA Report focused on the results of the following tests of broadband speed and latency:

- *Sustained download speed*: throughput in Mbps utilizing three concurrent TCP connections measured at the 25-30 second interval of a sustained data transfer;
- *Sustained upload speed*: throughput in Mbps utilizing three concurrent TCP connections measured at the 25-30 second interval of a sustained data transfer;
- . . .
- *UDP latency*: average round trip time for a series of randomly transmitted user datagram protocol (UDP) packets distributed over a long timeframe.²⁶

The 2013 MBA Report found that, during the testing period, “ISPs on average delivered 97 percent of advertised download speeds during peak periods,” i.e., consumer usage hours of weekdays from 7:00 pm to 11:00 pm local time, which was “statistically equivalent to the [2012]

²⁴ Federal Communications Commission, 2013 Measuring Broadband America: February Report, at 4, *available at* <http://transition.fcc.gov/cgb/measuringbroadbandreport/2013/Measuring-Broadband-America-feb-2013.pdf> (last visited Mar. 18, 2014) (“2013 MBA Report”).

²⁵ The fourteen participants in the 2013 project—which together accounted for “well over 80 percent” of all U.S. residential broadband connections—were AT&T, Cablevision, CenturyLink, Charter, Comcast, Cox, Frontier, Insight, Mediacom, Qwest, TimeWarner Cable, Verizon, Windstream, and ViaSat. *Id.* at 8 & n.12.

²⁶ *Id.* at 16. The MBA report includes two other primary categories of measurement: (1) “burst download speed” (throughput in Mbps utilizing three concurrent TCP connections measured at the 0-5 second interval of a sustained data transfer) and (2) “burst upload speed” (throughput in Mbps utilizing three concurrent TCP connections measured at the 0-5 second interval of a sustained data transfer). *Id.*

report.”²⁷ Moreover, “across all terrestrial technologies during peak periods, latency averaged 29.6 [milliseconds] as compared to the July 2012 Report figure of 31 [milliseconds].”²⁸ Each of these measurements was also broken out by ISP, so that consumers and edge providers had a better (yet still overly general) sense of whether ISPs made good on their marketing promises.

There is no question that the 2013 MBA project—which involved “a total of 3 billion measurements taken across 170 million unique tests”²⁹—generated information that has enabled end users and edge providers to, at a high level, “understand the capabilities of broadband services.”³⁰ If, however, the project will continue to form the basis for monitoring the actions of the broadband providers who provide Internet access to an overwhelming majority of Americans—and thereby allow those providers to satisfy some of their disclosure obligations under the transparency rule—the Commission should consider the following critical areas for improvement:

First, as indicated in the 2013 MBA Report, “data are only analyzed at the national level, and are not collected in a way that permits meaningful conclusions about broadband performance at the local level.”³¹ Given that a primary purpose of the transparency rule is to enable more informed choices by consumers, it is difficult to see how the data at its current level of generality can be used by consumers to actually facilitate such choices. For example, if a New York

²⁷ *Id.* at 4. The term “advertised speed” refers “to the speed ISPs use to advertise and market a particular broadband service.” The term “sustained speed” is used to provide an estimate of long-term average broadband performance, and is defined as “speed averaged over a period of several seconds.” *Id.* at 8.

²⁸ *Id.* at 11. For the purposes of the measurement project, latency is defined as “the round-trip time from the consumer’s home to the closest server used for speed measurement within the provider’s network.” *Id.*

²⁹ *Id.* at 17.

³⁰ *Open Internet Order*, 25 FCC Rcd at 17938, para. 56.

³¹ 2013 MBA Report at 8.

resident interested in obtaining broadband service has a choice between Verizon and another broadband provider, how useful is it to know that, at the national level in September 2012, Verizon on average delivered 97 percent of the download speeds it advertised to its subscribers? In fact, because ISP network technology and performance varies from area to area, such national average data may not only be uninformative, but actually misleading. Without more localized data, consumers will not have meaningful information on which to base choices concerning local broadband service, and broadband providers will not be incentivized to offer higher quality services in all areas.³² Equally as important as evaluations by consumers—many of whom face limited broadband ISP service options—are evaluations by knowledgeable third parties who would be able to point to problems and appropriately tailor solutions if more localized data were disclosed pursuant to the transparency rule.

Second, each MBA report is based on measurements taken during “a single reference month that has been chosen to represent a typical usage period for the average consumer.”³³ The reference month for the February 2013 report was September 2012, and the reference month for the previous July 2012 report was April 2012.³⁴ Thus, the data only provide end users and edge providers with a snapshot in time—a sub-optimal result. To address this deficiency, the Commission need not necessarily undertake a more frequent compilation and analysis of the MBA measurements.

In addition to an annual MBA report, the Commission periodically releases all data collected through the MBA program as part of a raw non-validated data set, referred to as the

³² Indeed, OIAC’s Transparency Working Group recognized that the consumer’s location is an important factor in reporting download and upload speed. OIAC 2013 Annual Report at 85 (concluding that ISPs should provide speed data that “will be close to the actual performance delivered to the consumer’s broadband modem in that geographic area [where the broadband service is offered]”).

³³ 2013 MBA Report at 4.

³⁴ *Id.*

“Raw Bulk Data Set.”³⁵ Though it may not use the unverified data to compare ISP performance,³⁶ the Commission nevertheless “recognizes that this data can have value to the research community and others interested in broadband network performance, and releases it for this purpose.”³⁷ While Cogent understands the effort and resources involved in compiling, auditing and analyzing even a single month’s worth of broadband performance data, it believes the Commission should seek comments in its NPRM on the benefits and burden in requiring, at a minimum, more frequent release of raw unaudited data sets so that all interested persons can make use of such data. Broadband ISPs might use the data to tout their performance in delivering broadband services, but third-party experts such as independent engineers and consumer watchdogs will also be able to monitor, evaluate and, if need be, publicly challenge such claims.³⁸ Thus, Cogent does not propose that MBA or similar data be audited and/or analyzed on a monthly basis, only that the Commission and/or ISPs produce or provide access to such raw data on a more frequent basis.

Third, many of the largest broadband providers in the country offer their own on-demand video services (e.g., Verizon’s RedBox) and/or voice services. As recognized by the D.C. Circuit in *Verizon*, such broadband providers have an obvious incentive to steer their subscribers toward their own proprietary services and away from competitive products offered by edge

³⁵ *Id.* at 15.

³⁶ See FCC, Raw Data – Measuring Broadband America 2012, <http://www.fcc.gov/measuring-broadband-america/2012/raw-data-2012> (“Such data is provided ‘as is’ with the FCC making no assertion as to the quality of such data. Specifically, the extensive integrity checking that is performed preparing data for each report during both the collection and in post-collection data analysis and processing has not been performed on this raw collected data.”).

³⁷ *Id.*

³⁸ See *Open Internet Order*, 25 FCC Red at 17941, para. 60 (“A key purpose of the transparency rule is to enable third-party experts such as independent engineers and consumer watchdogs to monitor and evaluate network management practices . . .”).

providers such as Netflix, Hulu or Skype.³⁹ In other words, such broadband providers “have incentives to interfere with the operation of third-party Internet-based services that compete with the providers’ revenue-generating telephone and/or pay-television services.”⁴⁰ While the 2013 MBA methodology utilized both off-net and on-net measurement points (or “test nodes”),⁴¹ it does not appear to have included any test (or series of tests) that would allow for the comparison of performance between the delivery of content that originates outside of a broadband provider’s network and that which originates within the network. Nor does it appear to allow for measurements that would permit the comparison of performance between content delivered from different Internet backbones. Such tests, if implemented, would allow for the potential favoritism described above to be identified, including that which is attributable to congestion at interconnection points between an ISP and a competing edge provider’s backbone network. Thus, while large broadband providers might adamantly deny allegations that they affirmatively degrade or throttle the delivery of competing content which originates outside of their networks, the transparency rule can and should be enhanced to put such claims to the test.

Fourth, the MBA tests measure only the fastest speeds from the homes of residential volunteers to “off-net” M-Lab servers.⁴² As such, the tests cannot detect favoritism, which

³⁹ *Verizon*, 740 F.3d at 645 (recognizing that “broadband providers may be motivated to discriminate against and among edge providers”).

⁴⁰ *Id.* (quoting *Open Internet Order*, 25 FCC Red at 17916, para. 22); see also Brodtkin, *Why YouTube buffers* (quoting law professor Susan Crawford as stating that “the very powerful eyeball networks in the U.S. . . . have ample incentive and ability to protect the IP services in which they have economic interests”).

⁴¹ FCC, 2013 Measuring Broadband America February Report: Technical Appendix, at 19-21, available at <http://data.fcc.gov/download/measuring-broadband-america/2013/Technical-Appendix-feb-2013.pdf> (last visited Mar. 18, 2014) (“2013 MBA Report Technical Appendix”).

⁴² The MBA tests do, as a check, measure speeds from the same volunteers to “on-net” servers maintained by their ISPs, but the final MBA analysis relies only on the results from speed tests to “off-net” M-Lab servers. See 2013 MBA Report Technical Appendix at 20 (“It is important to note that while these on-net test nodes were included in the testing, the results from these tests were used as a control

would require a *comparison* of the fastest and slowest connections of residential volunteers. Specifically, to the extent that the M-Lab servers are located on a backbone network, the tests cannot reveal differential connection speeds to backbones because the MBA methodology only tests a *single* off-net connection—i.e., the connection from a given Whitebox to the M-Lab server providing the fastest connection.⁴³ Alternatively, to the extent that the M-Lab off-net servers are not located on a backbone network, such tests reveal nothing about interconnection speeds to such networks. Consequently, the current MBA tests provide little information on the actual speed of the connection when a consumer exchanges data with an edge provider whose content is delivered via a network other than that controlled by the end user’s broadband ISP. For example, recent Netflix speed tests showed that the average download speed of Netflix content to Verizon FiOS customers dropped from 2.22 Mbps in October 2013 to 1.76 Mbps in February 2014.⁴⁴ This decrease in average download speed would not necessarily be reflected in the current MBA tests. Moreover, this decrease is not recognized in Verizon’s advertising for Verizon FiOS, which promises a minimum of 15 Mbps.⁴⁵

Recent events indicate that certain ISPs are failing to augment capacity on interconnection ports between the ISP and particular Internet backbones. When such practices occur at the same time as total traffic continues to expand, broadband customers cannot receive the advertised download speed when they download content that is delivered by a backbone whose interconnection ports are being constrained. The current MBA program would not reveal

set; the results presented in this study are based only on tests performed using off-net nodes.”) (emphasis added).

⁴³ The MBA tests locate “Whiteboxes” in the homes of residential volunteers and then measure the fastest speed from those Whiteboxes to M-Lab servers. *Id.* at 20-21.

⁴⁴ Netflix, *USA ISP Speed Index Results Graph*, <http://ispspeedindex.netflix.com/results/usa/graph>.

⁴⁵ See Verizon, *So What Exactly is FiOS You Ask?*, <http://www.verizon.com/home/fios/>.

this constraint on the speed of an end user's connection to the Internet. Put differently, the current MBA program does not and cannot measure real and present failures of ISPs to deliver what their customers were sold and bought (i.e., access to the entire Internet). The solution lies in part in enhanced disclosures concerning network management practices.

2. Disclosures About Network Management Practices

Pursuant to the transparency rule, broadband providers are also expected to describe their network management practices, including the manner in which they manage network congestion.⁴⁶ Such disclosures should include the types of traffic and purposes served by such practices, as well as the effects such practices may have on end users' experiences.⁴⁷ These "expectations" highlight a weakness of the current transparency rule: it does not specify what information concerning network management practices that broadband ISPs must disclose.⁴⁸ Accordingly, the information provided to date by many broadband providers has been of limited or no utility to end users or edge providers. For example, in its Acceptable Use Policy, Comcast states that it "may" lower "the priority of traffic for users who are the top contributors to current network congestion," but does not define or even generally explain what constitutes a "top contributor."⁴⁹ Such practice is just one of many unspecified "tools and techniques" that Comcast uses to manage its network.⁵⁰ Similarly, Verizon states generally that "network or

⁴⁶ *Open Internet Order*, 25 FCC Rcd at 17938, para. 56.

⁴⁷ *Id.*

⁴⁸ *Id.* at 17938, para. 54 ("A person engaged in the provision of broadband Internet access service shall publicly disclose accurate information . . . *sufficient* for consumers to make informed choices regarding use of such services . . .") (emphasis added).

⁴⁹ Comcast, *Acceptable Use Policy for XFINITY Internet*, <http://www.comcast.com/Corporate/Customers/Policies/HighSpeedInternetAUP.html> (emphasis added). In an important sense, each bit being transmitted over a congested portion of a network, regardless of source or destination, contributes equally to that network's congestion.

⁵⁰ *See id.* ("Comcast uses various tools and techniques to manage its network . . . These tools and techniques are dynamic, like the network and its usage, and can and do change frequently.")

Internet congestion” is one of the factors on which an end user’s speed of service may vary, but does not specify the role Verizon might play in defining, causing or managing (much less mitigating) such congestion.⁵¹

Cogent’s experience in exchanging traffic with certain broadband providers is emblematic of the network management issues that affect end users and edge providers on a regular basis, and highlights the degree to which the current disclosure regime is ill-suited to detect or remedy network congestion that degrades broadband Internet performance. For example, Cogent’s recent dealings with Verizon underscore the importance of more robust and definitive disclosure obligations concerning network management practices.

The graphs attached to these comments show the flow of Internet packets between Cogent and Verizon at the location in New York where they exchange traffic. The graph at Exhibit A depicts the flow of traffic in July 2010. The volume of traffic increases and decreases smoothly around peak and off-peak periods because the rate at which packets are delivered to the interconnection point is always less than capacity. In contrast, as evidenced by the graph at Exhibit B, by July 2013 the situation had materially deteriorated. The flat line portion of the curve shows that many more packets were being delivered than the existing peering ports could handle. The result is dropped packets, including for streaming video and VoIP data, both of which are especially sensitive to packet loss and, it is worth noting, represent content that is competitive with services offered by Verizon on its own network. While an obvious solution is for Verizon to upgrade its congested interconnection ports with Cogent, for present purposes the key point is that, under the current transparency rule, there is no requirement that a broadband

⁵¹ Verizon, *Verizon Online Terms of Service*, https://my.verizon.com/central/vzc.portal?_nfpb=true&_pageLabel=vzc_help_policies&id=TOS, at para. 6.

ISP like Verizon even disclose the problem. Absent such disclosures, end users lack important information required to make informed choices about their purchase of broadband ISP services.⁵²

Furthermore, without such disclosures, the Commission is hamstrung in its ability to gain visibility into, much less address through remedial measures, issues that interfere with the reasonable and timely deployment of broadband to all Americans. It therefore follows that, to actually facilitate the disclosure of information that will “enable end users and edge providers to understand the capability of broadband services,”⁵³ the Commission should require the disclosure of any and all network management practices that broadband ISPs use, directly or indirectly, which either purposely or effectively degrade broadband service. To be meaningful, such disclosures must encompass practices concerning the management of interconnection points.

C. Additional Transparency Requirements That the Commission Should Impose

The foregoing discussion identified certain problems with the existing transparency rule, as well as shortcomings in the existing performance and network management data upon which the largest broadband ISPs base their disclosures under this rule. Here, Cogent proposes additional disclosure requirements—in addition to the enhancements discussed above—with which the Commission should require broadband ISPs to comply. These additional requirements will: (a) render the information provided under the transparency rule more detailed, timely and accessible; (b) ensure that disclosures are useful to both end users and edge providers; and

⁵² Describing information necessary for end users to make informed choices presupposes that there is a choice to make. However, many end users have no choice when it comes to selecting a broadband ISP service. Yet even for these consumers, such information may serve the useful purpose of exposing a broadband ISP’s failure to deliver on the service it promises.

⁵³ *Open Internet Order*, 25 FCC Rcd at 17937, para. 56.

(c) ensure that the no blocking and non-discrimination goals of the *Open Internet Order* are sustained in a manner consistent with the D.C. Circuit's *Verizon* decision.⁵⁴

It is important to recognize that the disclosures are not just for the benefit of consumers. As noted, many consumers simply do not have a choice of broadband ISPs. For such consumers, the choice is either forgoing broadband service or accepting whatever terms and performance the sole provider offers. Thus, to be effective, additional disclosures must provide information that is useful to the Commission and the Internet community that will monitor and understand broadband ISP disclosures and play a constructive role in solving whatever problems are identified. To that end, Cogent recommends that the Commission propose, and issue an NPRM to seek comment on, the following enhancements to its transparency rule:

1. **A requirement that performance data be disclosed in a manner that lets all interested persons observe the actual speeds at which popular edge-provider content is being downloaded during peak usage periods (7:00-11:00 pm, adjusted for local time zones) on a system-specific level.** Such a requirement would permit end users to observe speed and congestion problems at a local level, and for the Internet content for which there is the greatest demand, rather than rely on national average data. To identify "popular content," the Commission could simply refer to credible outside sources (e.g., www.alexacom) that rank, on a monthly basis, the most visited websites in the United States. Measurement of download performance from the top 250 websites, for instance, would give end users meaningful insight into

⁵⁴ An additional proposed rule, intended to bolster the Commission's enforcement options should the disclosures discussed herein reveal a sustained state of network congestion, is discussed at Section III.B, *infra*. That rule, among other purposes, would provide the Commission with a mechanism to address the type of congestion Cogent has experienced at its New York (and other) interconnection points with Verizon and other broadband ISPs.

how their particular broadband ISP performs. For purposes of this requirement, the Commission should seek comment in its NPRM on what definition of “system-specific level” strikes the appropriate balance among disclosure, burden and technical feasibility.

2. **A requirement that packet loss data be disclosed on a system-specific level for data transmitted by edge providers with respect to the same “popular content” identified in Proposal No. 1, above.**
3. **A requirement that broadband ISPs disclose download speeds on a stand-alone (not blended) basis for their own, proprietary services to create a benchmark against which the download speeds of unaffiliated content can be compared.** The premise of this proposal is to allow a meaningful comparison of performance between content that originates outside of the broadband ISPs’ networks and that which originates inside the broadband ISPs’ networks (or, even if originating outside, is affiliated with a broadband ISP). Such a requirement will make transparent a broadband ISP’s choice to prioritize its own content and/or discriminate against certain unaffiliated content. That transparency, in turn, facilitates the ability of end users and edge providers to make informed decisions.
4. **A requirement that broadband ISPs disclose data sufficient to show network congestion/capacity constraint at interconnection points between their network and other networks, backbone providers, and/or peers with whom they interconnect.** Such disclosures, if made on a timely basis for any interconnection point where the congestion/capacity constraint occurs, will provide critical information for assessing whether reasonable and timely deployment of broadband

services is being achieved. In addition, it will provide the evidentiary basis for the Commission to institute, should it prove necessary, the type of enforcement proceeding discussed in Section III.B, *infra*.

5. **A requirement that broadband ISPs provide access to raw speed-test data, on a system-specific level, on a monthly basis.** Such disclosures (essentially, the Raw Bulk Data Set that is collected in the MBA program) should be made available to the Commission and for public inspection.
6. **A requirement that broadband ISPs disclose promptly any practices that block or degrade the performance of content or an application from any particular edge provider.** Importantly, such practices may entail a decision not to augment capacity at an interconnection port that serves an edge provider that the broadband ISP's customers have chosen to patronize. As Internet traffic continues to grow, decisions not to augment capacity (as opposed to eliminating capacity) can be extremely effective tools. While a disclosure of this sort would not prevent such conduct, the fact that a broadband ISP has to promptly disclose such conduct, should it choose to engage in it, will serve an important deterrent function.
7. **A requirement that a broadband ISP disclose the Service Level Agreements related to any arrangement pursuant to which an edge provider connects directly with the broadband ISP's network.** As with Proposal No. 3, *supra*, this disclosure will provide another benchmark against which overall performance can be assessed, and will aid the Commission in detecting potentially discriminatory conduct. It does not seek to proscribe such direct-connect arrangements.

8. **Revise the MBA speed tests to measure and separately report (a) speeds from a SamKnows Whitebox to M-Lab servers located on the networks of different Internet backbone providers, and (b) speeds from the SamKnows Whiteboxes to particular edge providers.** These revisions will address the shortcomings with the current MBA program discussed in Section II.B.1, *supra*.

III. The Commission Should Also Promulgate Rules, Consistent With its Authority Under Section 706, to Require Broadband ISPs to Remedy Any Sustained State of Congestion at Interconnection Points With Their Networks

In his statement accompanying the release of the Public Notice in this proceeding, Chairman Wheeler also asked his fellow Commissioners to fulfill the goals that underlie the portions of the *Open Internet Order* that were vacated:

Fulfill the “no blocking” goal. The D.C. Circuit recognized the importance of the Open Internet Order’s ban on blocking Internet traffic, but ruled that the Commission had not provided sufficient legal rationale for its existence. We will carefully consider how, consistent with the court opinion, we can ensure that edge providers are not unfairly blocked, explicitly or implicitly, from reaching consumers, as well as ensuring that consumers can continue to access any lawful content and services they choose.

Fulfill the goals of the non-discrimination rule. We will carefully consider how Section 706 might be used to protect and promote an Open Internet consistent with the D.C. Circuit’s opinion and its earlier affirmance of our Data Roaming Order. Thus, we will consider (1) setting an enforceable legal standard that provides guidance and predictability to edge providers, consumers, and broadband providers alike; (2) evaluating on a case-by-case basis whether that standard is met; and (3) identifying key behaviors by broadband providers the Commission would view with particular skepticism.⁵⁵

The word “goal” is critical here because the D.C. Circuit ruled that the Commission cannot impose common carrier-type non-discrimination obligations on broadband ISPs absent

⁵⁵ Wheeler Feb. 19, 2014 Statement at 1.

Title II reclassification.⁵⁶ At the same time, the D.C. Circuit endorsed many of the determinations that led the Commission to adopt the “no-blocking” and non-discrimination portions of the *Open Internet Order*. For example, the Court stated:

“[N]othing in the record gives us any reason to doubt the Commission’s determination that broadband providers may be motivated to discriminate against and among edge providers.”,⁵⁷

“[A]s the Commission found, broadband providers have the technical and economic ability to impose such restrictions.”,⁵⁸

“Because all end users generally access the Internet through a single broadband provider, that provider functions as a terminating monopolist, . . . with power to act as a gatekeeper with respect to edge providers that might seek to reach its end-user subscribers.”;⁵⁹

and

“[T]he Commission established that the threat that broadband providers would utilize their gatekeeper ability to restrict edge-provider traffic is not, as the Commission put it, merely theoretical.”⁶⁰

Thus, the present inquiry is how the Commission can achieve the *goals* that the vacated rules sought to address—that is, prevent the type of discriminatory conduct (of which blocking is the ultimate manifestation) that the Commission and the D.C. Circuit recognized as a real threat—short of Title II reclassification.

⁵⁶ See *Verizon*, 740 F.3d at 650 (“[W]e must determine whether the requirements imposed by the *Open Internet Order* subject broadband providers to common carrier treatment. If they do, then given the manner in which the Commission has chosen to classify broadband providers, the regulations cannot stand.”). As stated above, Cogent believes that Title II reclassification should be implemented without delay.

⁵⁷ *Id.* at 645.

⁵⁸ *Id.* at 646.

⁵⁹ *Id.* (citation and internal quotation marks omitted).

⁶⁰ *Id.* at 648 (citation and internal quotation marks omitted).

Cogent submits that the way to achieve these goals is to adopt a rule that addresses sustained states of network congestion which, if left unchecked, are antithetical to the reasonable and timely deployment of broadband service. Specifically, the Commission should promulgate a rule that authorizes the Commission to institute an enforcement proceeding (either on its own motion or pursuant to a complaint), upon evidence showing a sustained state of congestion at one or more interconnection points between a broadband ISP's network and another network, that directs the broadband ISP to show cause why it should not be required to implement promptly remedial measures to relieve the sustained state of congestion. The Commission has authority to adopt this rule under Section 706 of the Telecommunications Act of 1996, and should seek comment in an NPRM on how to define a "sustained state of congestion."

Unlike the rules vacated in *Verizon*, this proposal, and the enforceable legal standard it would establish, does not impose requirements on ISPs that are akin to common carrier obligations. Rather, the proposal provides a mechanism for the Commission to encourage the reasonable and timely deployment of broadband service to all Americans and, should it find that such deployment is lacking, take immediate steps to accelerate it.

A. Legal Authority

Section 706 "furnishes the Commission with the requisite affirmative authority to adopt" broadband regulations designed to fulfill the complementary no-blocking and non-discrimination goals.⁶¹ Section 706(a) provides:

The Commission and each State commission with regulatory jurisdiction over telecommunications services shall *encourage the deployment on a reasonable and timely basis of advanced telecommunications capability to all Americans* (including, in particular, elementary and secondary schools and classrooms) by utilizing, in a manner consistent with the public interest,

⁶¹ *Id.* at 635.

convenience, and necessity, price cap regulation, regulatory forbearance, measures that promote competition in the local telecommunications market, or other regulating methods that remove barriers to infrastructure investment.⁶²

Section 706(b), in turn, requires the Commission to conduct regularly an “inquiry concerning the availability of advanced telecommunications capability to all Americans” and to “*determine whether advanced telecommunications capability is being deployed to all Americans in a reasonable and timely fashion.*”⁶³ If the Commission finds that advanced telecommunications capability is not being deployed to all Americans in a reasonable and timely fashion, the Commission “*shall take immediate action to accelerate deployment of such capability by removing barriers to infrastructure investment and by promoting competition in the telecommunications market.*”⁶⁴ Section 706(d) defines “advanced telecommunications capability” to include “broadband telecommunications capability.”⁶⁵

Section 706 thus provides the Commission with two affirmative grants of authority to fulfill the *Open Internet Order*’s no-blocking and non-discrimination goals. Indeed, “the general and generous phrasing of § 706” grants the Commission “significant albeit not unfettered, authority and discretion to settle on the best regulatory or deregulatory approach to broadband.”⁶⁶

1. Section 706(a)

The D.C. Circuit’s opinion in *Verizon* makes clear that, in the *Open Internet Order*, the

⁶² 47 U.S.C. § 1302(a) (emphasis added).

⁶³ *Id.* § 1302(b) (emphasis added).

⁶⁴ *Id.* (emphasis added).

⁶⁵ *Id.* § 1302(d).

⁶⁶ *Ad Hoc Telecomms. Users Comm. v. F.C.C.*, 572 F.3d 903, 906-07 (D.C. Cir. 2009); *see also Verizon*, 740 F.3d at 649 (“[S]ection 706 grants the Commission authority to promote broadband deployment by regulating how broadband providers treat edge providers”); *Open Internet Order*, 25 FCC Red at 17970 n. 378 (citing *Ad Hoc Telecomms. Users Comm.* in finding that Section 706 grants the Commission “authority and discretion” to regulate broadband); *Comcast Corp. v. F.C.C.*, 600 F.3d 642, 658 (D.C. Cir. 2009) (“[S]ection 706 does contain a direct mandate”).

Commission properly outlined the bounds of its authority under Section 706(a) to regulate broadband. As the D.C. Circuit stated, Section 706(a) “vest[s] the Commission with actual authority to utilize” the regulatory methods set forth in the statute to ““encourage the deployment . . . of advanced telecommunications capability.””⁶⁷

In the *Open Internet Order*, the Commission interpreted its Section 706(a) authority as a mandate to encourage broadband deployment.⁶⁸ Section 706(a) ““gives this Commission an affirmative obligation to encourage the deployment of advanced services””; moreover, ““this obligation has substance.””⁶⁹ That authority permits the Commission to carry out the acts enumerated in Section 706(a), including, as particularly relevant here, adopting ““measures that promote competition in the local telecommunications market.””⁷⁰ The available legislative history confirms the Commission’s interpretation of its Section 706(a) authority. A Senate Report characterizes the Commission’s Section 706(a) authority as a “necessary fail-safe” to achieving the goal of permitting all Americans “to send and receive information in all its forms—voice, data, graphics, and video—over a high-speed switched, interactive, broadband, transmission capability.”⁷¹ By characterizing the authority as a “fail-safe,” the Commission rightly reasoned, Congress gave the Commission authority in Section 706(a) “to address practices, such as blocking VoIP communications, degrading or raising the cost of online video,

⁶⁷ *Verizon*, 740 F.3d at 637 (quoting 47 U.S.C. § 1302(a)).

⁶⁸ See 25 FCC Rcd at 17968, para. 117 (noting that Section 706 “directs” the Commission to take certain actions and that the Commission “must” encourage broadband deployment under Section 706).

⁶⁹ *Id.* at 17969, para. 119 (quoting *In the Matters of Deployment of Wireline Servs. Offering Advanced Telecomms. Capability et al.*, Memorandum Opinion and Order and Notice of Proposed Rulemaking, 13 FCC Rcd 24012, 24046, para. 74 (1998)).

⁷⁰ *Open Internet Order*, 13 FCC Rcd at 17969, para. 120 (quoting 47 U.S.C. § 1302(a)).

⁷¹ S. Rep. No. 104-23, 51 (1995); see also *Verizon*, 740 F.3d at 639 (“In fact, section 706(a)’s legislative history suggests that Congress may have, somewhat presciently, viewed that provision as an affirmative grant of authority to the Commission whose existence would become necessary if other contemplated grants of statutory authority were for some reason unavailable.”).

or denying end users material information about their broadband service, that have the potential to stifle overall investment in Internet infrastructure and limit competition in telecommunications markets.”⁷²

As stated above, in *Verizon*, the D.C. Circuit upheld the Commission’s interpretation of Section 706(a) authority, and held that the Commission’s analysis and reasoning supported its interpretation that Section 706(a) “constitutes an affirmative grant of regulatory authority” and found no basis to disturb that conclusion.⁷³ The D.C. Circuit also affirmed that the scope of Section 706(a) authority is cabined by the Commission’s subject matter jurisdiction⁷⁴ and by the statute’s particular purpose to ““encourage the deployment on a reasonable and timely basis of advanced telecommunications capability to all Americans.””⁷⁵

2. Section 706(b)

In *Verizon*, the D.C. Circuit likewise affirmed the Commission’s interpretation that Section 706(b) constitutes a separate, but related, grant of authority to regulate broadband.⁷⁶ As the court held, “the Commission has reasonably interpreted section 706(b) to empower it to take steps to accelerate broadband deployment if and when it determines that such deployment is not ‘reasonable and timely.’”⁷⁷ The D.C. Circuit further affirmed the Commission’s interpretation that Section 706(b) “does not limit the Commission to using other regulatory authority already at its disposal, but instead grants it the power necessary to fulfill the statute’s mandate.”⁷⁸

⁷² *Open Internet Order*, 25 FCC Rcd at 17970, para. 120.

⁷³ *Verizon*, 740 F.3d at 637.

⁷⁴ *See id.* at 640 (citing 47 U.S.C. § 152(a)).

⁷⁵ *Verizon*, 740 F.3d at 640 (quoting 47 U.S.C. § 1302(a)).

⁷⁶ *Open Internet Order*, 25 FCC Rcd at 17972, para. 123 (“Section 706(b) . . . provides additional authority . . .”).

⁷⁷ *Verizon*, 740 F.3d at 641.

⁷⁸ *Id.*

In the *Open Internet Order*, the Commission interpreted its Section 706(b) authority to permit it “to take actions such as enforcing open Internet principles,” upon a finding that broadband capabilities are not being deployed to all Americans in a reasonable and timely fashion.⁷⁹ In the *Sixth Broadband Deployment Report*, the Commission made a finding that broadband was not being deployed to all Americans in a reasonable and timely fashion.⁸⁰ The Commission has continued to make this finding in the subsequent *Seventh* and *Eighth Broadband Deployment Reports*.⁸¹ In so doing, the Commission has further interpreted the scope of Section 706(b) authority in a reasonable manner and consistent with the *Verizon* decision. Three points regarding the Commission’s interpretation bear emphasis.

First, the Commission properly recognizes that its Congressional mandate to determine whether broadband “is being deployed to all Americans in a reasonable and timely fashion”⁸² is not limited to “a narrow evaluation of physical network deployment.”⁸³ Rather, Congress directed the Commission in Section 706(b) “to examine more than physical availability” by asking it to assess the ““availability”” of ““affordable”” broadband that can originate and deliver

⁷⁹ 25 FCC Rcd at 17972, para. 123.

⁸⁰ *In the Matter of Inquiry Concerning the Deployment of Advanced Telecommunications Capability to All Americans in A Reasonable & Timely Fashion, & Possible Steps to Accelerate Such Deployment Pursuant to Section 706 of the Telecommunications Act of 1996, As Amended by the Broadband Data Improvement Act*, Sixth Broadband Deployment Report, 25 FCC Rcd 9556 (2010) (“*Sixth Broadband Deployment Report*”).

⁸¹ *In the Matter of Inquiry Concerning the Deployment of Advanced Telecommunications Capability to All Americans in A Reasonable & Timely Fashion, & Possible Steps to Accelerate Such Deployment Pursuant to Section 706 of the Telecommunications Act of 1996, As Amended by the Broadband Data Improvement Act*, Seventh Broadband Progress Report and Order on Reconsideration, 26 FCC Rcd 8008 (2011) (“*Seventh Broadband Deployment Report*”); *In the Matter of Inquiry Concerning the Deployment of Advanced Telecommunications Capability to All Americans in A Reasonable & Timely Fashion, & Possible Steps to Accelerate Such Deployment Pursuant to Section 706 of the Telecommunications Act of 1996, As Amended by the Broadband Data Improvement Act*, Eighth Broadband Progress Report, 27 FCC Rcd. 10342 (2012) (“*Eighth Broadband Deployment Report*”).

⁸² 47 U.S.C. § 1302(b).

⁸³ *Seventh Broadband Deployment Report*, 26 FCC Rcd at 8021, para. 18.

“high quality voice, data, image, graphics, and video telecommunications services.”⁸⁴ The Commission has reasonably interpreted this mandate to require it to examine additional indicia of deployment, such as broadband “cost, quality, and adoption” by consumers.⁸⁵

Second, the Commission has appropriately interpreted its duty to determine whether broadband is reasonably and timely deployed as requiring an assessment of “current activities to deploy broadband,” not of where and how broadband has already been deployed or may be deployed.⁸⁶ This interpretation is consistent with the statute’s use of the present tense and requirement to assess annually the deployment of broadband, as well as with the Commission’s “‘broad’ authority to address new issues that arise with respect to ‘fluid and dynamic’ communications technologies.”⁸⁷ It is therefore proper for the Commission to inform its determination regarding deployment based on its “understanding of trends in the industry.”⁸⁸

Third, should it determine (as it has) that broadband is not being reasonably and timely deployed to all Americans, the Commission correctly has interpreted its mandate to accelerate deployment “by removing barriers to infrastructure investment and by promoting competition in the telecommunications market.”⁸⁹ This mandate, the Commission has noted, requires it “to identify and help reduce potential obstacles to deployment, competition, and adoption—concepts

⁸⁴ *Id.* at 8021, para. 19 (quoting S. Rep. No. 104-23 at 50).

⁸⁵ *Seventh Broadband Deployment Report*, 26 FCC Rcd at 8021, para. 19; *see also id.* at 8021, para. 20 (noting a “general consensus” that “simply because a consumer has physical access to broadband service does not mean that it is actually available to him or her in a meaningful sense”); *Eighth Broadband Deployment Report*, 27 FCC Rcd at 10350, para. 9.

⁸⁶ *Seventh Broadband Deployment Report*, 26 FCC Rcd at 8033, para. 47.

⁸⁷ *Open Internet Order*, 25 FCC Rcd at 17967, para. 115 (quoting *Nat’l Broad. Co., Inc. v. United States*, 319 U.S. 190, 219-220 (1943)).

⁸⁸ *Seventh Broadband Deployment Report*, 26 FCC Rcd at 8032, para. 46; *see also Eighth Broadband Deployment Report*, 27 FCC Rcd at 10349, para. 7 (“Market offerings, and consumer demand, continue to expand and change, and our evaluation under section 706 necessarily should reflect those developments.”).

⁸⁹ 47 U.S.C. § 1302(b).

that are tightly linked.”⁹⁰ And, in fulfillment of the Congressional mandate, the Commission may take actions addressing “low broadband service quality, including performance insufficient to enable consumers to use the applications and services they wish to use, and the applications Congress has specified for particular consideration,” *i.e.*, “high-quality voice, data, image, graphics, and video telecommunications services.”⁹¹

B. Rules to Ensure That Providers of Broadband Internet Access Remedy Any Sustained State of Congestion at Interconnection Points With Their Networks

The Commission should exercise the authority discussed above to adopt a rule such that, if the Commission discovers a sustained state of congestion at one or more interconnection points between a broadband ISP’s network and another network, then the Commission should institute an enforcement proceeding (either on its motion or pursuant to a complaint) to direct the broadband ISP to show cause why it should not be required to implement promptly remedial measures that relieve the sustained state of congestion. This rule would provide the Commission with a critical and powerful tool to exercise its Section 706 authority because sustained network congestion creates an impediment to the reasonable and timely deployment of broadband service. As noted above, the Commission should seek comment on how best to define a “sustained state of congestion.”

Importantly, such a rule would not impose common-carrier regulations on an ISP.⁹² The proposed rule does not (a) impose a “no blocking” requirement; (b) impose a “no unreasonable

⁹⁰ *Seventh Broadband Deployment Report*, 26 FCC Rcd at 8040, para. 65.

⁹¹ *Id.* at 8012, para. 5; 8021, para. 19 (quoting S. Rep. No. 104-23 at 50).

⁹² To that extent, the proposed rule is analogous to the wireless data roaming rule adopted by the Commission in 2011 and affirmed by the D.C. Circuit the following year. *See In the Matter of Reexamination of Roaming Obligations of Commercial Mobile Radio Serv. Providers & Other Providers of Mobile Data Servs.*, Second Report and Order, 26 FCC Rcd 5411 (2011) (“*Data Roaming Order*”), *aff’d*, *Cellco P’ship v. F.C.C.*, 700 F.3d 534 (D.C. Cir. 2012). As the D.C. Circuit stated in *Cellco*, there are regulations that are “consistent” with common carriage that do not, however, “necessarily confer[]”

discrimination” requirement, as it is content-neutral and agnostic as to any particular edge provider; or (c) mandate any standardized terms and conditions for service to any and all broadband ISP customers. Moreover, the proposed rule recognizes that download/upload speeds may vary system to system and, therefore, does not require differently situated (from a technical or network architecture perspective) systems to meet common or minimum-speed criteria. Rather, the proposed rule only requires that any given broadband ISP provider, taking into account the particular attributes and architecture of its network, relieve congestion—without regard to source—when such congestion is found by the Commission to be sustained.⁹³

In order to be effective and faithful to the goals articulated in the *Open Internet Order*, it is essential that the rule promulgated by the Commission be explicit that it is incumbent upon the broadband ISP to take reasonable measures as necessary to remedy sustained states of congestion. For example, a broadband ISP must not be permitted to refuse to comply with its obligation to relieve a sustained state of congestion unless another network with whom it peers agrees to pay. This facet of the proposed rule is not predicated on mandating settlement-free peering—even though doing so would be consistent with both historical practice and preserving the open Internet. In fact, the proposal would allow a broadband ISP the flexibility to attempt to reach a paid peering agreement with peering partners in order to relieve a sustained state of congestion. However, if such agreement cannot be reached, then the broadband ISP must upgrade its interconnection with its peering partner(s) as is necessary to relieve the sustained state of congestion. How a particular broadband ISP remedies the sustained state of congestion is not

common carriage. *Id.* at 547 (citations omitted). In other words, common carriage is not “all or nothing.” *Id.*

⁹³ Adoption of the enhanced transparency rule discussed above (*see* Section II.C, *supra*) will provide the Commission with useful data to detect any sustained states of congestion at broadband ISPs’ interconnection points with other networks.

something the Commission need dictate as a general matter. Simply put, flexibility and individualized solutions are fine, provided that the broadband ISP promptly meets its obligation to relieve sustained network congestion.

While the effect of reduced network congestion may be of particular benefit to bandwidth-intensive edge providers (e.g., streaming video providers), the purpose is to ensure that, consistent with Section 706, broadband ISPs do not operate their networks in a manner that undermines the reasonable and timely deployment of such service. It is conceivable that under this regulatory regime certain edge providers will negotiate arrangements with broadband ISPs by which they will pay for dedicated capacity or improved connectivity. In theory, such arrangements should not pose a problem. As long as a broadband ISP's network is not congested at interconnection points to the degree that its customers are not able to reasonably access the open Internet, then the fact that one or more edge providers are paying for a "dedicated lane" is not inconsistent with the reasonable and timely deployment of broadband service to all Americans. Moreover, if the dedicated lane arrangement is the product of anticompetitive conduct, then such conduct can and should be addressed by the antitrust enforcement authorities.

CONCLUSION

The advent of the Internet has been one of the seminal communications developments in history. Preservation of the Internet's open and dynamic nature, along with all of the innovation, investment and economic growth it entails, is not only well within the Commission's statutory mandate, but vitally in the public interest. Cogent believes that the best way to ensure the perpetuation of the open Internet as a free and vibrant marketplace of communications of all sorts is to reclassify broadband Internet access service as a Title II telecommunications service and to impose the attendant common-carrier obligations on those entities that provide such

service. Absent that, Cogent respectfully submits that the Commission should issue an NPRM to seek comment on and adopt rules as described above.

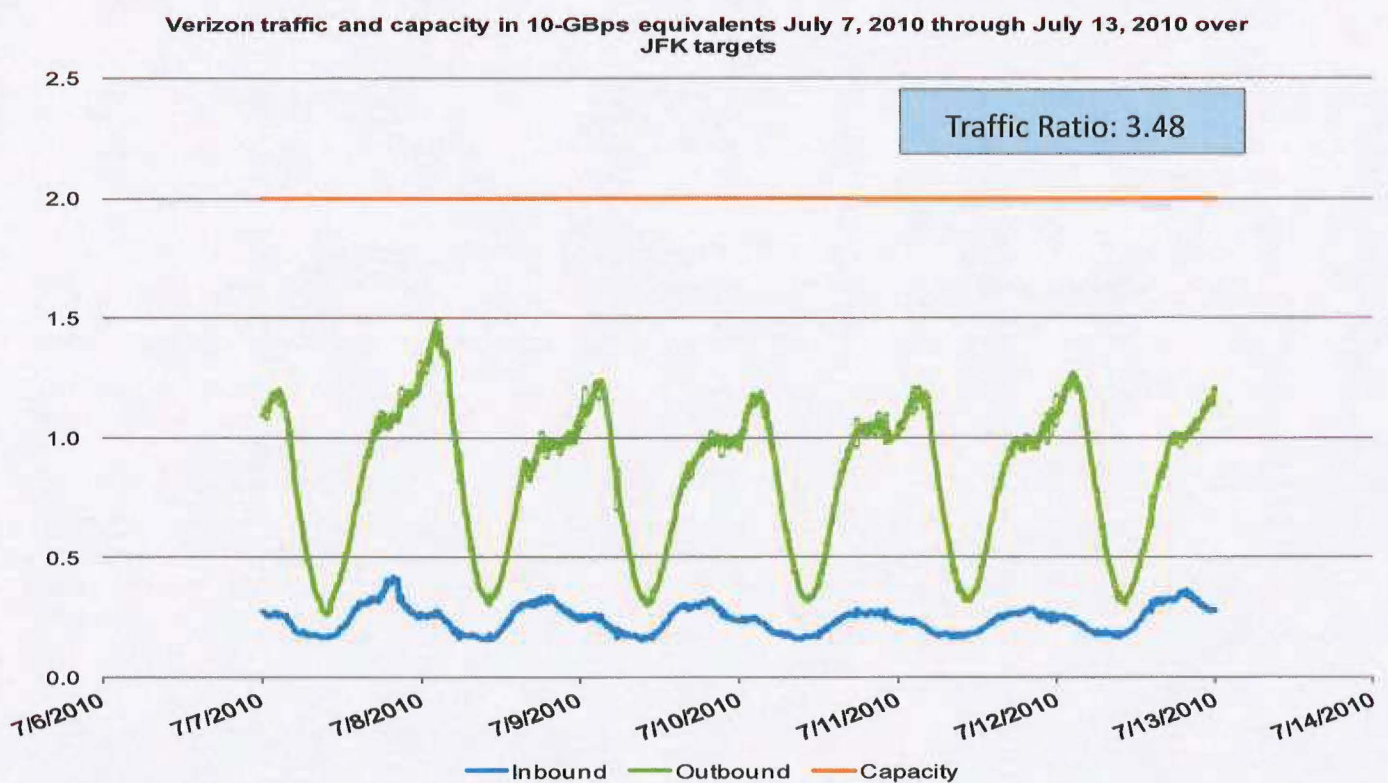
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EXHIBIT A

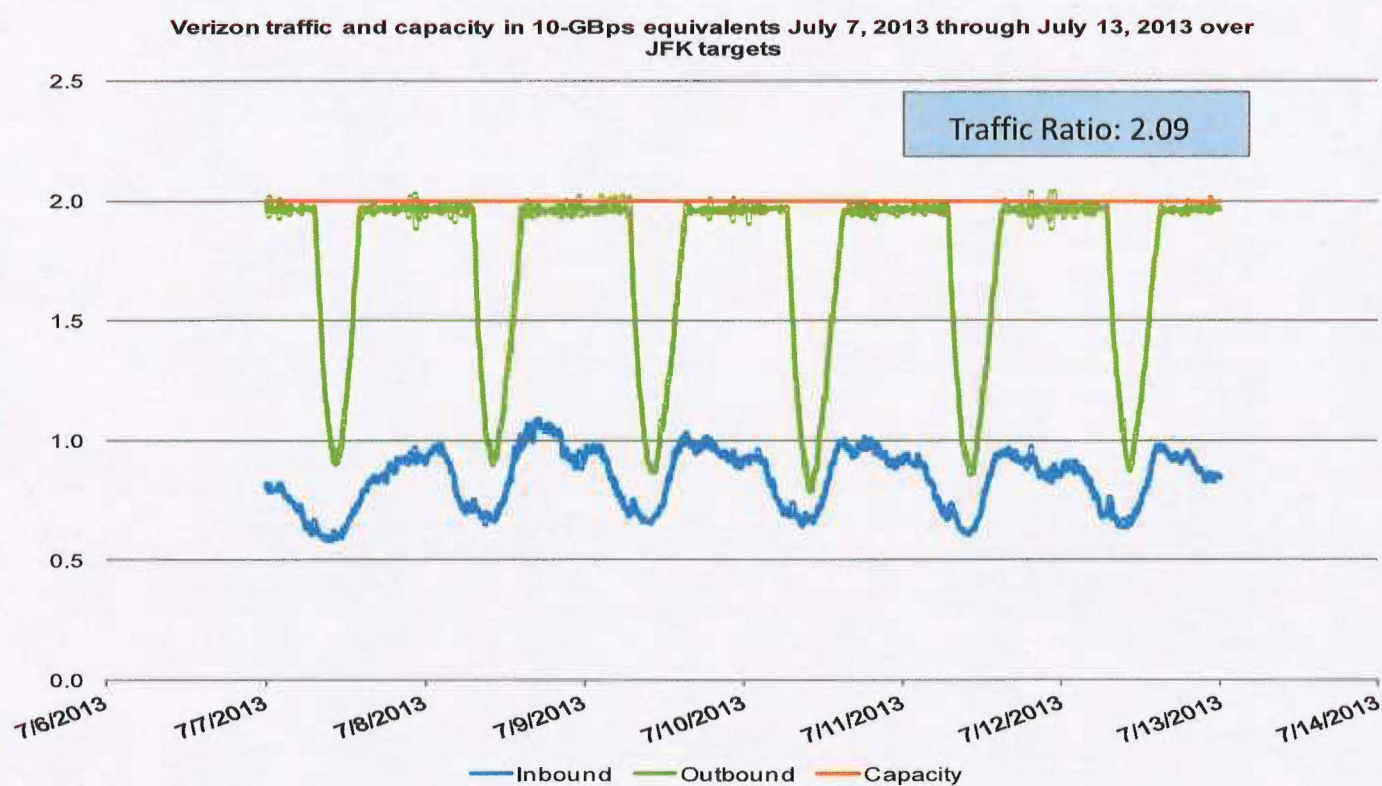
In July 2010, outbound traffic to Verizon at JFK ports does not appear to be constrained by capacity



Source: Cogent SSDG data

EXHIBIT B

In July 2013, outbound traffic to Verizon at JFK ports appears to be constrained by capacity



Source: Cogent SSDG data